MILITARY AIRLIFT COMMAND

Challenges to Global Airlift For Today and Tomorrow

IS AMERICA'S MILITARY EDGE OVER RUSSIA DISAPPEARING?

A Special Report On Page 6

VOL. 2, NO. 2/FEBRUARY 1979

COMMAND MAGAZINE

Military Airlift Command C-5 transport aircraft fulfill the command's motto, "You Call, We Haul" as they deliver Army trucks to their destination to take part in an exercise.

From Guam to Greenland, the sun never sets on the men, women, and aircraft of the Military Airlift Command (MAC).

MAC, one of three specified commands reporting to the Joint Chiefs of Staff, is also an Air Force major command of more than 140,000 active, Reserve forces, and civilian workers with approximately 1,400 active and Reserve aircraft. This command serves the United States at home and abroad by providing airlift, when and where needed, anywhere in the world.

MAC is at your service. You call and we'll haul—soldiers, medicine, snowplows, religious pilgrims, accident victims, repatriated POWS, space-available passengers, paratroopers, blood, beans, bullets, hay for stranded cattle, rifles, tanks, trucks, fuel, 40-ton magnets, and food to fight famine. MAC people have airlifted all of this, and more, all over the world for the last three decades.

MAC airlift has changed during the last 30 years. While the mission is the same, the capability of airlift has matured. MAC flies more cargo, flies it farther, and flies it faster. This command has helped other nations—in cold war and hot—from Berlin to Zaire. MAC people helped others recover from the ravages of natural and man-made disasters—in frigid winters and steaming jungles—from Buffalo to

Burma.

However, the nature of airlift—still evolving today—will continue to change. We will carry even larger cargo loads, fly still faster and farther.

But our success in the future depends on our actions today. I believe that MAC, in facing the demands of today and tomorrow, faces five challenges:

- the need for more airlift;
- the need for better airlift;
- the need to lead our people better;
- the need to improve our wartime readiness, and
- the need to plan our actions realistically.

These needs are not distinct entities—all are related. For example, a more efficient use of present airlift will actually provide more airlift. Realistic planning improves airlift today and tomorrow. Such planning can neither overlook the quality of leadership available to guide our people, nor the effects of readiness training on the successful completion of our wartime mission.

Realistic Planning

Realistic planning compels MAC to consider all the other challenges.

Much of America's overseas wartime contingency planning is focused on NATO Europe. It must take into account intangibles such as Warsaw Pact intentions, the stability of NATO's northern and southern flanks, the kinds and quantity of materials needed for defense, and other factors.

However, we do not, and indeed cannot, plan for a wartime contingency only in Europe. Realistic wartime planning must also consider the possibility of multi-theater contingencies. U.S. and allied interests must be protected in the Far East, Middle East, and in the emerging Third World areas as well as in Europe.

Because our Nation's friends and interests are so diverse and so wide-spread, U.S. response to challenges against our friends and interests must be rapid and effective.

Because the demands on U.S. airlift are truly global, one thing is clear: We do not now have enough airlift to meet all the demands we expect will be placed on U.S. airlift. These demands are enormous. In fact, during a war we would have to move more cargo out of the United States in two days than we move in 30 days during peacetime.

The next war most likely will be a "come as you are" war, and the forces that will be involved in the crucial early stages are going to ride to that war on MAC airplanes. Because of that, MAC's ability to perform its mission may well have a deciding influence on the outcome.

Yet there is a limit to the amount of airlift we can expect to have available, realistically, to meet our requirements. There are other priorities. To have an endless supply of military transport aircraft ready for any contingency could be as wasteful and inefficient as having too few to do the airlift job.

Clearly, we will not be able to purchase outright the airlift capability this Nation needs. We can, however, seek other options and make other choices. There can be trade-offs to obtain the best military air transport capability we can afford.

But there is more to planning than considering the effects of influences outside the Defense Department. We must take into account our own resources and capabilities. We do this through contingency planning, an effort I see as a joint military service venture. **For example,** we're planning the first 4,000 loads with the Army, Navy, Marines, and Air Force for a European scenario—actually planning, in detail, each aircraft load.

We're surfacing problems now—before we have to move anybody. So we've asked our customers to evaluate critically what they need and when they must have it. Already, we have learned that our planning was optimistic in some areas. We needed fine-tuning elsewhere, and we have had to streamline some of our procedures.

Wartime Readiness

The reason for such planning, of course, is to insure our readiness for war. MAC is ready for its wartime mission. We practice every day and especially during special joint service exercises such as Autumn Forge, Solid Shield, Brave Shield, Empire Glacier, Jack Frost, Team Spirit, and the like.

MAC IS MEETING GLOBAL CHALLENGES TODAY WITH SUCCESS. WHAT ABOUT TOMMORROW?

By Gen. William G. Moore Jr., USAF
Commander in Chief, Military Airlift Command

GEN. WILLIAM G. MOORE JR.

General William G. Moore Jr., is Commander in Chief (CINC) of the Military Airlift Command (MAC), with headquarters at Scott Air Force Base, Ill. As commander of a specified command, CINCMAC is responsible to the President and the Secretary of Defense through the Joint Chiefs of Staff for the planning and performance of airlift missions during wartime, periods of crisis, and peacetime exercises. In carrying out this mission, he directs the management of all strategic and tactical airlift forces worldwide to insure operational support to unified and specified commands engaged in military operations. During routine peacetime conditions airlift service is provided by the Commander MAC (COMAC), through the Secretary of the Air Force, in his role as Executive Director of the Single Manager Operating Agency for Department of Defense Airlift Service. In this capacity, he is also responsible for air rescue, air weather, aeromedical evacuation, and combat documentation and audiovisual systems throughout the world.

General Moore was born on May 18, 1920, and began his military career in 1940 by enlisting in the Army Air Corps as an aviation cadet. He was graduated in May 1941 with a commission as a second lieutenant.

During WW II, General Moore commanded the 777th Bombardment Squadron, 464th Bombardment Group, Fifteenth Air Force, in Italy, logging 35 combat missions in B-24 Liberators. After WW II, he served as Commandant of Students at the Army Air Forces Aircraft Observer and Bombardier School at Mather Field, Calif.

GEN. MOORE

During the Korean War, General Moore commanded the 3d Bombardment Group based at Kunsan, Korea, from where he led 65 combat missions in B-26 medium bombers.

In November 1966, General Moore was assigned in Vietnam to organize the airlift effort in support of the Southeast Asia conflict. He reactivated and commanded the 834th Air Division at Tan Son Nhut Air Base, with responsibility for all tactical airlift in Vietnam.

He became Assistant Vice Chief of Staff, U.S. Air Force, with the additional duty of Senior Air Force Member, Military Staff Committee, United Nations, in October 1976. He assumed his present duty on April 1, 1977.

General Moore is a combat veteran with 100 missions flown during WW II and the Korean War, and more than 140 missions in the Vietnam conflict.

During peacetime, MAC's mission is to improve and maintain its wartime readiness posture. Unlike other military organizations, MAC's readiness training produces a useful by-product—airlift. We use this capability to meet the logistic airlift requirements of all Defense Department agencies. Sometimes we carry cargo, sometimes passengers, sometimes both. Because our peacetime mission calls for us to carry diverse cargos, some people have the idea that MAC is the Defense Department's airline.

In a certain sense, that notion is correct. But the idea that MAC is an airline is stretching things a bit. Certainly there are similarities, but there are large differences too.

Scheduling is one key difference between MAC and the airlines. MAC, like the airlines, tries to operate on a tight schedule. We start the operating month schedule 100 days in advance. We refine the schedule as the operating month approaches.

Then, as we get into the operating month, more often than not, we encounter no-notice missions that require deviation. **Example:** Heavy snows fell in Ohio last winter. We had to haul in snow-removal equipment and military personnel to dig out the civilian communities. A few days later, we encountered another snow emergency—this time with 10 hours' notice. We repeated the snow removal operation for five cities in the northeastern United States.

Last summer Mac airlifted United Nations peacekeeping forces to the Middle East from widely separated locations around the globe. At the same time, Command personnel moved equipment and supplies to help French and Belgian rescue operations in Zaire, then later MAC crews flew them home.

The Zaire operation points up an important fact—MAC is not only the military air transportation force of the United States, it is the only significant military airlift capability in the free world.

Does MAC operate on a regular schedule like the airlines? Hardly. We are truly a "you call, we haul" outfit. That's our job. The job requires some fancy footwork at times, and attendant personal sacrifices by aircrews, maintenance personnel, and other people.

Although MAC's response to humanitarian needs brought about by natural disasters is important, interesting, and good training, the ability to respond results from the capability to do a war mission.

MAC crews fly, train, and practice for war. By being ready for war it can be prevented from happening.

Related to MAC's daily training missions are the annual joint service exercises. MAC crews and planners gain much experience and expertise in executing their wartime jobs from these exercises.

However, even though MAC airlifters are involved in the many joint service exercises, they aren't flying the airplanes enough to

exercise the entire airlift system often enough at wartime levels. No exercise is large enough for MAC to operate all its aircraft for the numbers of flying hours that would be called for in war. But we do test our ability to call our aircraft and crews into operation. How? Piece by piece, unit by unit, exercise by exercise.

During the 1977 annual European autumn exercise, the MAC wing at McGuire AFB, N.J. was "surged." We gave it the entire deployment job. During REFORGER 78 MAC "surged" an enroute staging base—Goose Bay, Labrador. Through exercises such as these, we have learned, and are learning, to be better airlifters.

Leadership

Airlift is more than airplanes—it is a worldwide system of people, equipment and facilities that, to work efficiently, must be tightly meshed into a closely coordinated team effort. The people drive the system and, because of that, we must learn to better lead them—to efficiently use all our people—their talents—and, in so doing, to retain them.

Total Force

MAC is a total force. Reserve forces are fully integrated—Air National Guardsmen and Air Force Reservists—into MAC's daily missions. Reserve forces are involved in every part of the airlift mission—from piloting C-9 aeromedical evacuation missions to processing cargo at aerial ports.

Reserve forces, for example, serve in various duties with MAC's technical services: the Aerospace Rescue and Recovery Service, the Air Weather Service and the Aerospace Audiovisual Service.

Reserve forces make up about 40 percent of MAC's total force, about 50 percent of the strategic airlift aircrews, about 56 percent of the tactical airlift force, 40 percent of the wartime maintenance requirement, and 56 percent of the total aerial port contingency manpower.

MAC's Reserve forces are very capable and we want to maintain and build on that capability. Opportunities must be offered to the Reserve force, as well as our active duty forces, to perfect their skills and to exercise their leadership abilities. MAC is seeking ways to do that more and more across the board.

Why the need for greater mission involvement and for more and better leadership opportunities for the Reserve forces?

Because the wartime mission simply cannot be accomplished without them. Because when it comes time for war, MAC's Reserve forces will be as heavily involved in the accomplishment of that wartime mission as will active duty forces. Then there will be no division between active duty and Reserve forces.

Pilot Retention

Although the need for leadership, expressed earlier, extends throughout the airlift system, I am concerned especially

(Continued on page 10)

DEFENSE news briefs

Sole Parent Problem Gets Army's Attention

The Army is now giving commanders more flexibility in dealing with the sole parent problem.

Changes, effective in January, now fall into four areas: counseling, reenlistment control, performance appraisals, and involuntary separation.

Sole parents in Service are generally women but they also could be men.

One change in the counseling area is that all enlisted members, not just those under three years of service, who are sole parents, must submit an acceptable Dependent Care Plan. Otherwise reenlistment can be barred.

New Navy Ships

The Navy has commissioned or launched three new ships. Commissioned recently were the destroyer Moosebrugger (Spruance Class) and the anti-submarine warfare submarine Birmingham (Los Angeles Class).

Launched was the guided missile frigate George Philip.

War Against Waste, Error, Fraud

A DoD Steering Group has been formed to oversee action to prevent fraud and detect waste in DoD programs and activities.

Deputy Secretary of Defense Charles W. Duncan Jr., named Stanley Resor, the Under Secretary of Defense for Policy . . . to head the groups which is coordinating DoD efforts.

New MX Study

MX or Missile X, a possible new intercontinental ballistic missile system (ICBM), is currently being studied to determine if an air-launched or air-transportable basing mode might prove better than the trench or silo multiple aiming point (MAP) system.

DoD spokesmen said technical considerations prompted the study that is due in April 1979.

F-16s Coming Aboard

The first F-16 fighters were delivered to the Air Force in early January.

Built by General Dynamics, the new fighter is a low-cost alternative to the F-15 Eagle and will supercede, along with the Eagle, F-4 Phantoms, the mainstay of the Vietnam War.

Several NATO allies also are re-equipping with this modern aircraft that performs air-to-air and air-to-ground roles.

RUSSIA

Is the U.S. in danger of becoming No. 2? Will the Soviets pressure Western Europe? In this interview, the Nation's top military officer analyzes a worrisome shift in the power balance—and tells how it can be countered.

Interview With Gen. David C. Jones Chairman Joint Chiefs of Staff

(Reprinted with Permission of U.S. News & World Report, Inc.)

Q General Jones, how do you size up the strategic balance between the United States and the Soviet Union today?

A We're in relatively good shape today, but a snapshot of today is not enough. It's the momentum, it's the trends that are really important, and that's what worries us.

Q Are the trends moving against this country?

A They're adverse across the board for the most part. A number of years ago, we had a substantial advantage over the Soviets in most categories, but we were saying that the trends were adverse. Now the advantages are disappearing.

We're at a point where we have a balance in general, but those adverse trends are continuing in the strategic field and in much of the general-purpose field. So, over all, I believe there's too much unwarranted pessimism about today's balance and not enough genuine concern about the prospective imbalance in the 1980s.

Q If the present trends continue, is there danger that the United States will become No. 2 behind the Soviet Union in the 1980s?

A I think there's that danger—very clearly. The Soviets are spending substantially more than we are on defense. In the strategic field, it's about 2½ to 1. For about 20 years, the Soviets have maintained a steady 4 to 5 percent increase in real terms.

On the other hand, we expended a lot of our defense resources in the Vietnam War, and until recently we had a substantial reduction year after year in defense spending in real terms. Also, the Soviets have about double the military manpower that we have. You just can't continue to have the divergence of resources devoted to defense without having some shift.

Another concern is that, since the missile-gap debate of the early '60s, we have generally underestimated more than we've overestimated what the Soviets were going to do. They have moved faster than we expected. I'm not talking about just numbers, but I include quality as well.

Q Will the Soviets be forced to curtail this expanding defense effort by the growing economic squeeze that we've been hearing so much about lately?

A It's hard to say. The recent reports say they have severe economic problems, but it's estimated that they've been spending 11 to 13 percent of their gross national product on defense. Some serious analysts say it's higher than that. I don't see any evidence of a reduction. I wouldn't count on it right now.

Remember, the Soviets are a superpower only in the military sense. They're not an economic superpower. They have very little impact on the world economic situation. Japan and Western Europe have more economic impact.

The Soviets really are not a superpower from a political standpoint. Even though there's a lot of communism in the world, it's a diverse communism, not just a Soviet brand. Technologically, they're certainly not a superpower. They're a superpower in one aspect only: military capability.

What we're trying to do in our negotiations with the Soviet Union is to reduce the decibel count of the military competition and shift the competition into other areas.

Q What can the United States do to reverse the adverse military trends?

A There are two approaches we can take in dealing with the Soviets. One is to exercise unilateral restraint. There are many

who say that if we will be restrained, this will set an example which the Soviets will follow. I haven't seen any evidence that this has worked very well in the past, and I don't see any evidence that it's going to work any better in the future.

The other approach—which I favor—is to demonstrate to the Soviets that a continued buildup on their part would be counterproductive, that they couldn't achieve their objectives. That might give them some incentive to move away from the military field of competition into something else that's less risky. Also, it might give the Soviets a greater incentive to negotiate if they knew we were going to match or even have the option of surpassing them.

Q Specifically, what will it take to get that point across to the Soviets?

A We need to increase our defense budget in the years ahead in real terms. I'm not suggesting any crash programs. I'm not trying to sound the alarm, but we ought to realize that as long as the Soviets are continuing to pursue an upward line in defense expenditures, we should do likewise.

I would put priority on strategic forces. In my judgment we will need to increase the budget for our strategic forces in the days ahead regardless of the strategic-arms-limitation talks. With an equitable SALT agreement, the increase should be less than without a SALT agreement. But in either event, we'll have to spend more in real terms and we'll have to modernize the three legs of our strategic triad: intercontinental ballistic missiles, submarine-launched ballistic missiles and the bombers.

But we cannot afford to do that at the expense of our nonstrategic forces. We need to continue work to enhance our capability in Europe and also to keep the edge we have in being able to project power. That's one area where we still have a substantial edge—in our ability to project power to most parts of the world.

Q Won't the SALT II agreement assure a safe balance between the United States and Russia without an increase in defense spending?

A Hopefully, we can arrive at an equitable SALT agreement that will put some caps on numbers. That would be in the best interests of both sides. But I would immediately caution that it will not solve the strategic problem we face. There are things that we will need to do ourselves to deal with the strategic problem. And I'm concerned that people might become complacent or a little euphoric and assume that a lot of our problems have been solved.

Our Minuteman force will still become vulnerable regardless of SALT II. The Soviets will be able to continue with the modernization of their forces. So will we. We should recognize that SALT can be helpful, but it doesn't solve the basic problems.

Q Why, in your view, are the Russians continuing this very large-scale military buildup in a period of so-called detente?

A It's hard to say. Some of the buildup appears to be almost irrational. Take the Soviet civil-defense program: Why do they spend a billion dollars a year on this? Why do they have something like 70,000 people, headed by a four star general running the program? Why are they doing it if, as many judge, they can't achieve any worthwhile objective? It's difficult to say how much of it is momentum or how much they think they really can achieve in the days ahead.

One of my worries is that we tend to mirror image. We tend to examine a problem using our mores, our background and our values, and come to a conclusion, and then assume the Soviets come to the same conclusion. That's very dangerous. The Soviets may see the world much differently than we do.

For example, in the strategic field, we in the United States regard strategic nuclear war as basically unthinkable. Soviet doctrine talks about it as being thinkable.

Q Given the shifting strategic balance, is there danger that the Soviets will attempt to use their military power against Western Europe?

A I don't think it is likely. I believe that if we continue what we're doing in our long-term defense program for Europe, and we shore up our defenses there, we can preserve the stability that we've had for the most part in Western Europe since 1945.

Q Do you expect the Soviets to try to exploit their military power more vigorously in the future to compete with us around the world? For example, will they be more inclined to intervene in local crises to extend their influence and their power?

A I think wherever there's a vacuum, the Soviets will be tempted to move in. Whether or not they actually do so will depend on their perception of the overall balance between the United States and themselves—not only in hardware terms but in our will or resolve to use our power. Other factors may inhibit them, but, in general, I believe they'll continue to want to fish in troubled waters.

Q Where do you see the greatest danger?

A I would rather not try to single out one part of the world.

Q Do the Soviets now have a significant capability to intervene in conflicts far from their borders?

A Yes. For a long time, the Soviets emphasized defense of the homeland. They put tremendous emphasis on air defense, particularly compared with our effort in this field. They had what was mainly a coastal-protection Navy and a short-range, low-payload Air Force, which was mainly air-defense oriented.

They have changed a great deal. They now have a blue-water Navy. The Air Force is longer range with greater payload, and their airlift capacity is greater. So they're increasing their capabilities to project power around the world. But still, in a relative sense, we have a substantial edge in this area.

Q How great is the danger that the Soviets will assume that, after our Vietnam experience, we lack the will to act if they move somewhere?

A That's always present. I believe it's a little less so than right after the Vietnam War, when the American public was loath to get involved anywhere. Now there's a change in mood. I don't mean that it's switched to the point where people are saying, "Let's go everyplace and do everything." But there's a better mood in the country with regard to our need to look after our interests.

Q Is that message getting through to our allies?

A It's still mixed as to their judging our intentions. I believe most agree that the situation is better now than it was in the immediate aftermath of Vietnam. But there are still concerns around the world as to what the United States would do. Every once in a while, we send them mixed signals.

Q When you look at the global-power picture, where does China fit in? Will Chinese enmity inhibit the Russians?

A It's very obvious that the Soviets are worried about the People's Republic of China—in some respects, I believe, unduly worried. They've deployed a very large and expensive military force opposite the Chinese border. They have expressed concern about the treaty between Tokyo and Peking. I'm sure it goes into Soviet calculations, probably more with regard to actions in the Far East than in Africa, the Middle East or other parts of the world.

Q Does Moscow's concern with China—the danger of a two-front war—inhibit possible Soviet military action against NATO?

A I'm sure it's a factor. But when we analyze the balance in Western Europe or the overall global balance, we take into account that the Soviets have close to a quarter of their divisions oriented toward China. Even if you take that into account, there's still a very large force to be directed against Western Europe.

Q Getting back to strategic balance: Why is there so much concern about the vulnerability of our Minuteman missiles to a Soviet attack? Wouldn't we still pack plenty of punch with our bombers and submarine-launched missiles?

A First, it's difficult to say how much is enough. It depends on your judgment of the various means and determinants. It is true that we've got a bomber force that's good and has greater capability than the Soviets. And we've got a good force of SLBM's—submarine-launched ballistic missiles.

But we should recognize that all of our strategic forces are aging—less in the SLBM's than the others. We have put relatively small amounts of money into overall modernization of our strategic forces.

You can accept a little more risk with one leg of the triad if the other two are very modern and moving along while you fix the third one. But to live with the growing vulnerability in the third one—the ICBM—indefinitely is a destabilizing situation.

Q Why is this whole concept of a triad so sacrosanct? If our land-based missiles are becoming vulnerable, why not phase them out and build more missile submarines or bombers?

A I don't believe that the triad is sacrosanct. But every time we've examined it, we find that there is a synergistic effect, with each part of the triad providing some capability that the other two legs do not provide.

The ICBM's provide very quick response, a very good

command and control, high accuracy. It's worth noting that the Soviet Union has seen fit to emphasize ICBM's very heavily. The bomber force gives flexibility and also a different method of survival. The SLBM force provides the best survival of any system, but the command-control problem is most difficult. So you get a very good synergistic effect, and you lose some of that when one leg of the triad becomes vulnerable.

We'd like to hedge. When we talk strategic-weapons systems, we are essentially talking 30 to 40 years. It takes about 10 years from the time you start developing until you have a full operational capability. Then you keep it 20, maybe even 30 years. And it's pretty hard to predict what capabilities the Soviets will have 20 or 25 years from now. Therefore, if you go down three roads, you have hedged your bets more than if you go down two or one.

Q General Jones, given the trends you have described, are we moving into a period of exceptional danger?

GEN. JONES

A I think we've been living in a dangerous world, particularly since the invention of nuclear weapons. So we're talking about relative risks. I would judge that if we do what's necessary and start out on a steady-paced program of some real increase in our defense effort, the Soviets will see it's not in their best interests to try to have a showdown.

We are sort of skating on thin ice, not in terms of our actual capability, but in terms of the perception—around the world and in this country—of our capability and the trends. In this situation, one dramatic event can have an enormous impact, just as the Soviet launching of Sputnik in 1957 changed the whole world's image of where the Soviets and we were in space.

If you look at the facts now, it's obvious that the Soviets weren't really ahead of us. But it took us billions of dollars and many, many years to demonstrate it to the world.

I don't know what that dramatic event would be in the strategic field. I doubt it would change the real balance, but it could change the perception. If the world gets the idea that the Soviets are far ahead in the strategic field, as they had an image that the Soviets were ahead in space, that would have a profound effect on the actions of people throughout the world.

dateline: R&D

Soviet Radar Developments

The Soviets have successfully tested "look down, shoot down" aircraft radar for targets the size of bombers or fighters but not for the small size of cruise missiles, according to Dr. William J. Perry, Under Secretary of Defense (Research & Engineering).

The operational date for fighter or bomber spotting look-down radars is still about five years away, probably in the late 1980s. The U.S. has such radar, missiles and aircraft now.

A Soviet look-down for Cruise Missiles might be on the drawing boards but has yet to be tested. This would represent a second generation development of some magnitude when it is considered that a bomber presents a radar profile 1,000 times as great as a Cruise Missile, a fighter 100 times larger.

Rear Looking Radar

A radar tail warning system for B-52G and H models, FB-111s, and F-15s has been contracted out by the Air Force to Westinghouse Electric Corp.

The system detects incoming threat from the rear and warns aircraft to take defensive action, such as releasing flares or chaff to foil either heat-seeking or radar homing missiles.

Ultraviolet Might Light the Way

Ultraviolet instrumentation aboard the American-British-European IUE satellite has surprised scientists by being able to penetrate the background denseness of clusters 15,000 light years away.

Dr. Herbert Gursky of the Harvard-Smithsonian Center for Astrophysics at Cambridge, Mass., said the short-wavelength instrumentation clearly cut through a million-star cluster.

Astronomers are studying global clusters as possibly having a massive black hole at their centers.

A black hole (say, 10 times the mass of our sun but only one millionth of its diameter) is so dense by its implosion or collapse even light could not escape its surface.

Laser Research

Preliminary measurements suggest that proton-beam pumping may be more efficient than its electron beam counterpart because of the large number of ionizations per unit path length for protons in rare gasses.

Strong simulated emission in the Argon-Nitrogen laser system at 358 and 381 nanometers (nm) and in Xenon fluoride at 351 and 353 nm has been observed.

(Continued from page 5)

by the numbers of aircrew members who elect to leave the Air Force.

During the past year, MAC has been hit by what's come to be known as "the pilot retention problem," like other Air Force commands. Many experienced pilots are leaving MAC for civilian life.

There seem to be two main reasons for the pilot exodus—expanded airline hiring, and dissatisfaction with military life.

Lost pilots can be replaced, but at high training cost. We cannot, however, replace their experience. If the pilot exodus continues at current rates, we may see a deterioration in readiness posture—a reduction in the professionalism demanded by MAC's complex mission and the high-value equipment we use.

I have met with many pilots and the commanders of MAC flying units. We have discussed the reasons for pilot losses.

As a commander, some of the reasons disturb me, because pilots have said, in effect, that their faith in leadership and the military institution had diminished.

They tell me that there is no perceived erosion of benefits—that the erosion of benefits is real.

They doubt that their leaders have fought hard enough to protect those benefits and the security the pilots and their families deserve in trade for the sacrifices they must make for the defense of our Nation.

Aerial refueling of C-5 aircraft (above) and weather mapping (below) play a big part in the mission of the Military Airlift Command.

Some pilots who are leaving have experienced, during their entire careers, actual or threatened reductions in benefits, pay and retirement compensation. They don't know at what point it will stop, and they don't want to be backed into an ever-tightening corner.

They tell me they are fed up with restrictive policies and irrelevant duties and training.

Commanders at every level should understand that pilot retention is a complex of problems. We are beginning to understand those problems, and we will continue to work on finding solutions.

In the meantime, commanders should work harder and smarter to restore the faith of their people in their leadership.

Better Airlift

But, as we seek ways to make our people better and satisfied, we must also seek ways to improve the efficiency of our equipment. Specifically, airlift must become better.

MAC is pursuing several ways to improve equipment efficiency: strengthening the C-5 wing, "stretching" the C-141 and adding air refueling, Air Force acquisition of an advanced tanker cargo aircraft to support MAC jet transports, and better use of the Civil Reserve Air Fleet.

C-5 Wing

We intend to strengthen the wing of the C-5—the only airplane that can carry all the Army's heavy combat vehicles. The C-5 provides half our strategic military airlift capability, but unfortunately, the plane's wing structure has a limited service life.

We plan to modify the entire C-5 fleet with a new wing, extending the aircraft's service life by 30,000 hours. Such a modification will cost about $1.3 billion. But it would cost several times that to build new airplanes with similar capabilities. Strengthening the C-5 wing is the best way to preserve this vital part of our airlift fleet.

Design and fabrication of two new wing structures has been funded. After they have been tested—one in a laboratory, the other on a C-5—we will modify all MAC's C-5s. We expect the first aircraft will gain its new wing in 1982, the last aircraft in 1987. In

the meantime we must conserve the wing life—fly the C-5 at a much reduced rate and at reduced loads. The plane can and will haul more than 100 tons if need be—such as during war.

C-141 "Stretch"

The C-141B, a "stretched" and modified version of the C-141A Starlifter, soon will be entering the active inventory to add both a new and enhanced capability to the Military Airlift Command's strategic airlift system.

Why the "stretch?" Efficiency! Most of the time we fill the C-141 with cargo and can still carry more weight, but have no place to put this extra tonnage. By stretching the plane's fuselage, there will be a place to carry this extra weight—an increase of airlift efficiency.

Also, we're adding air refueling capability to our C-141s while we "stretch" them. The refueling system permits greater flexibility in worldwide deployment by lessening dependency upon en-route bases.

And for about $500 million—the cost of the C-141 modification—we get the equivalent of 90 more C-141s without the recurring costs of new aircraft. That's a bargain in anybody's book.

Advanced Tanker

I mentioned the modified C-141s could be refueled in the air. We've air refueled our bomber and fighter aircraft for years. The Israeli Airlift showed us what aerial refueling could do for airlift.

Had air refueling been available during the Israeli Airlift, our average 74 tons per C-5 could have been increased to 104 tons—saving time and fuel. With air refueling we can carry more and carry it farther. And we don't have to depend on enroute refueling bases.

Our present air refueling tankers, KC-135s of the Strategic Air Command, are too small to refuel the C-5 efficiently. It takes too many KC-135s to refuel the C-5—and, too frequently, the tankers need to be based overseas because of the tankers' range limits.

So the Air Force selected the commercial DC-10 to be modified as a new advanced tanker cargo aircraft, known as the **ATCA.** The ATCA, under Strategic Air Command control, will augment the KC-135s. Besides being an air refueling tanker, the ATCA also can be used as an airlifter. We feel that ATCA offers significant improvements to our airlift capabilities.

CRAF

The Civil Reserve Air Fleet (CRAF), our partner for 26 years, constitutes a substantial part of our wartime airlift capability. When we need airlift help, CRAF-member airlines augment us.

Most of the long-range civilian aircraft in the U.S. inventory were designed to carry passengers. Consequently they have a very limited capability for cargo such as military equipment.

We think the CRAF can make an even more significant contribution. We have initiated a program to incorporate emergency cargo convertibility features in some wide-body civil aircraft. These features, which include wide cargo doors and stronger floors, will enable these aircraft to carry more of the Army's divisional equipment and help ease the task of wartime airlift.

Legislation has been proposed which would provide permanent authorization for this program.

More Airlift

We need new generation airlifters able to meet the demands we expect U.S. airlift to face—tactical and strategic transports, and increased commonality between military and civil aircraft.

We need the advanced medium STOL (stabilized take off and landing transport (AMST) to meet tactical airlift requirements of the 1980s. Self-propelled howitzers, tanks, armored personnel carriers, and key firepower equipment of the Army will be too large for transport by C-130 aircraft.

Today, and in greater measure in the future, we face urgent needs for an outsize STOL aircraft which can operate into unimproved runways near the forward edge of a battle area. The AMST can satisfy this airlift shortfall and improve the Army's ability to offset Soviet numerical superiority in general purpose weaponry.

Technology is now available to build the next generation tactical airlifter. Boeing Aircraft Co., and McDonnell-Douglas Corp. proved this when they built prototype AMSTs. Today's technology would also permit the AMST to augment strategic airlift forces. The problem now is to compete successfully in a tight budgetary environment for the modernization of our tactical airlift arm.

Commonality

I discussed the Civil Reserve Air Fleet earlier—civil aircraft that augment our military airlift capability. But what if this underlying theme of cooperative partnership could develop further into one of the commonality?

COMMAND MAGAZINE

Vol. 2, No. 2, February 1979

A publication of the Department of Defense to provide official and professional information to commanders and key personnel on matters related to Defense policies, programs and interests, and to create better understanding teamwork within the Department of Defense.

Published monthly by the American Forces Press Service, 1117 N. 19th St., Arlington Va. 22209, a unified activity of the American Forces Information Service, OASD (PA).

Telephone: (202) OXford 4-5070 Autovon 224-5070

COVER: MAC C-130 makes an airdrop of equipment.

We now use the C-9 for aeromedical evacuation missions: the aircraft is essentially a commercial DC-9. We contract some maintenance back to the manufacturer. As a result, less defense money is tied up in spare parts and support services.

We can see what the future offers. If the present airlift relationship of cooperative partnership evolves into one of commonality—through interchangeable parts, systems, and eventually airplanes—both military and civil airlift sectors stand to gain.

We think the commonality concept could be expanded even more. The Air Force, the airlines, and aircraft builders could get together and produce one type of airplane, or a family of airplanes, to serve both military and commercial needs.

If that happens, and if many such aircraft are built, the resulting low-unit cost per airplane would be just one benefit. But low-unit cost is a relative figure. To meet the needs of both airlift sectors, the aircraft would necessarily cost a good deal, perhaps in the range of $100 million per aircraft. But a joint venture would be much less costly than if the military and civil sectors developed aircraft individually.

What are the apparent benefits of such a joint venture? For the civil sector, lower unit costs would translate into lower fares and tariffs, which attract more customers. The military would gain greater airlift capacity at less cost. And taxpayers would benefit because fewer defense dollars would be needed to develop, buy, and maintain such an aircraft.

New Generation Aircraft

The result of this civil-military venture of commonality could be the C-XX transport, an aircraft capable of airlifting large quantities of outsize, oversize, and bulk cargo. Such an aircraft clearly represents more than an enhancement of present day transports. It would be a new generation strategic airlift aircraft to meet increased demands placed on tomorrow's airlift.

Summary

MAC's training for war goes on daily, and produces peacetime airlift as a by-product. We've met the challenges in the past, and are working hard to overcome today's stresses and pulls. MAC is a strong command—a strong airlift system—and we know that how we respond to today's challenges will affect our ability to prosecute the mission successfully in the future. Today's imperatives —more and better airlift, more effective leadership, improved wartime readiness, and realistic planning—will produce tomorrow's responsive airlift system.

MAC, whose motto is "Global in Mission—Professional in Action," not only aims to meet, but also looks forward to the challenges tomorrow will bring. We plan to produce the best in global airlift, for today and tomorrow.

CHANGE OF COMMAND

Appointment

Togo West, 36, who served as General Counsel of the Navy since April 1977, has been appointed The Special Assistant to the Secretary and Deputy Secretary of Defense.

West holds a B.S. degree in Electrical Engineering and a Doctor of Jurisprudence degree from Howard University.

West succeeds John G. Kester, who returned to private law practice.

Return to Active Duty

Maj. Gen. Joseph D. Zink, Air National Guard, has been selected to become Executive Officer and member of the Reserve Forces Policy Board, succeeding Maj. Gen. W. Stanford Smith, U.S. Army Reserve, who will be retired April 1, 1979.

Gen. Zink returns to active military service from his position as Assistant Chief of Staff for Air, New Jersey National Guard.

Zink served a three-year term on the Board from Jan. 1, 1975 to Dec. 31, 1977, as one of the two non-active duty Air National Guard members.

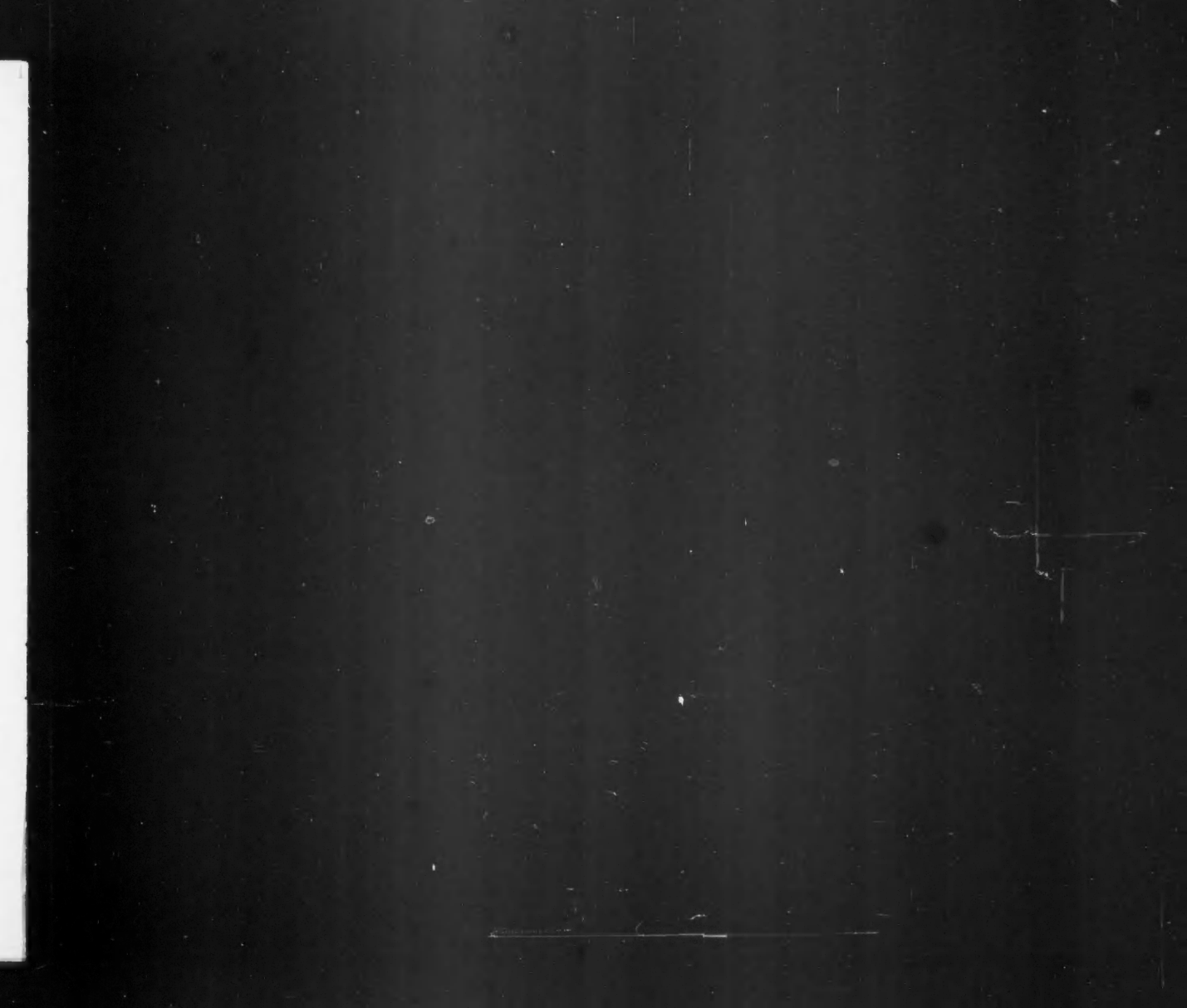
The Reserve Forces Policy Board is a statutory body which, acting through the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics), serves as the principal policy advisor to the Secretary of Defense on matters relating to the Reserve components. Its 21 members include senior civilian officials along with regular and Reserve component officers of general and flag rank.

Retirement

Lt. Gen. Harold R. Aaron, USA, Vice Director for Plans, Operations, and Support, Defense Intelligence Agency, since August 1977, was retired in his current grade effective Feb. 1, 1979.

Mr. West

Lt. Gen. Aaron

Maj. Gen. Zink

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Subscription Price: $17.00 domestic per year; $4.00 additional for foreign mailing; 65 cents per single copy U.S. GOVERNMENT PRINTING OFFICE 281-448/V-9